

INTEGRE Project

Regional Technical Workshop “Waste Management”

Wallis, 18-22 April 2016 Framework memo

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1. INTEGRE Project

The EDF (European Development Fund)10-funded INTEGRE project is designed to promote integrated coastal management (ICM) in those European overseas countries and territories (OCTs) in the Pacific that are participating in the project, and, more broadly, in the Pacific region. It comprises two complementary and mutually supportive components, i.e.

- Component 1 covering activities with a regional emphasis, i.e. sharing and networking; developing an ICM implementation methodology framework; and support for the territories;
- Component 2 covering ICM implementation activities at nine pilot sites chosen by the territories as coherent management units because they have major environmental issues, are used by local communities and are suitable for demonstrating integrated management activities. These sites are spread out over four Pacific OCTs (3 in French Polynesia, 3 in New Caledonia, 2 in Wallis and Futuna, 1 in Pitcairn).

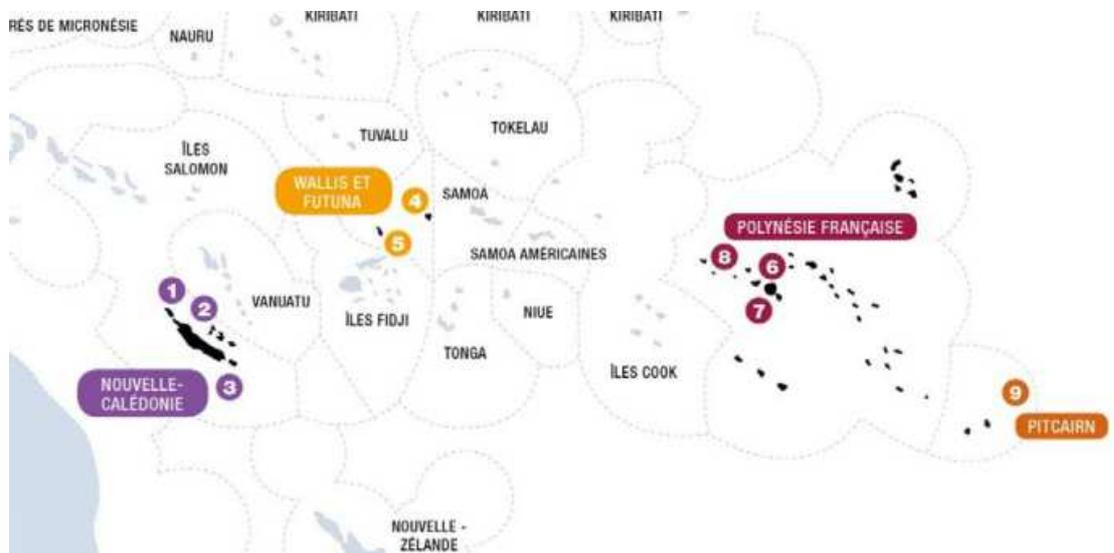


Figure 1 : INTEGRE pilot sites

For more information, please go to <http://integre.spc.int/>

Three technical workshops are planned during this project:

- The first technical workshop, which took place in Papeete, French Polynesia in February 2015, dealt with sustainable tourism;
- The second workshop is this one planned for Wallis in April 2016;
- The third technical workshop is supposed to be held in New Caledonia in 2017.

The issue of waste in the Pacific region

Due to their social, economic and environmental features (e.g. isolation, small surface areas, distance, lack of human resources, population densities), small island Pacific states and countries face a number of specific challenges in terms of waste management.

Poor waste management is a major threat to sustainable development in Pacific island countries and territories (PICTs) as it has negative impacts on the region's environment, as well as on public health, water resource quality, fisheries, agriculture, tourism and quality of life in general.

From 18 to 22 April, a technical workshop on Wallis

Wallis and Futuna's Office of the Environment will host participants and show them work progress in the field, particularly through a visit to the Vailepo landfill facility on Monday, 18 April.

Sustainable management of the environment (including its protection) is a responsibility of the territorial government that is performed by the Territorial Office of the Environment (STE), managed its Director, Atoloto Malau and by the Futuna office supervisor, Didier Labrousse. The Office is responsible for duties such as :

- providing and ensuring management of the natural or man-made physical environment and improving living conditions,
- identifying and proposing the information needed to draft a coherent environmental policy, and
- leading, coordinating and using studies, work, research and meetings on the protection and development of natural areas and resources, as well as on dealing with pollution, risks and harmful effects.

So the Office of the Environment does have the task of managing waste in Wallis and Futuna, more specifically managing the landfill facilities since their creation. The Office ensures the collection of sorting bins from the voluntary drop-off sites on both islands. Finally, while on Wallis district authorities are in charge of household waste collection, on Futuna it has been the Office of the Environment that has been providing this service since 2008 as part of an agreement the two agencies signed.

2. Workshop objectives

Promote exchanges of experience and technical know-how: between project sites and with the Pacific region;

Set up and strengthen networking among stakeholders;

Provide information about and discuss waste-management issues and how management can be dealt with as part of the ICM approach in the Pacific setting so as to get people to change their habits in the territories.

3. Themes to be discussed during the workshop

The workshop will allow participants to share and analyse various types of waste-management experience in Pacific countries in order to help them identify effective and self-sustaining waste-management systems that protect both public health and the environmental while stimulating economic growth.

This technical workshop offers feedback and actual working groups to help participants make headway on the following topics:

- Legislation and governance issues,
- Financial and economic issues related to waste management systems,
- Specific and hazardous waste,
- Communities' involvement in waste reduction and management, including raising awareness,
- Landfill.

Background information on each of the topics is provided below.

A. Legislation and governance Issues

Legislation on waste has several different roles: to prevent littering and indiscriminate dumping of waste; to determine what is considered toxic waste and so may need special handling; to determine the structure of governmental waste management organisations; and to put in place recycling and waste recovery systems, such as Container Deposit Legislation and Advance Recycling Fees. For waste exports, there are international agreements that govern movement of waste.

Littering and dumping of waste in the wrong place is a very common problem in the Pacific. There needs to be legislation in place so that persistent offenders can be fined significantly if the need arises, such as companies that dump waste to avoid landfill costs. However, high fines for casual littering usually results in no action being taken by police as the fine is perceived to be excessive by the public; littering is best addressed through public campaigns.

Toxic waste is often not defined in Pacific legislation and this can be a problem where toxic waste is mixed in with “normal” waste. The simple way around this is for legislation to refer to international agreements and standards such as the Basel or Waigani Conventions, so as to avoid having to try and include complex definitions of toxic waste into domestic legislation. Any legislation that identifies toxic waste must have some pathway for dealing with such waste, as if it is simply banned from local landfills then it will be forced “underground” and likely dumped illegally.

Waste management legislation is usually required to determine who is responsible to take care of waste in a particular country or territory. Such legislation usually has responsibilities split between national and local governments. The legislation should contain provisions for regulations to be made concerning particular types of waste, and good legislation can provide for regulations regarding toxic waste and recycling to be enacted under national SWM legislation. Details should be in regulations, not in the actual Acts. Samoa and Tonga both have good examples of an overall Waste Management Act that provides for regulations on particular areas.

Container Deposit Legislation and Advance Recycling Fees both require a legal framework, and the important point to note here is that the enabling legislation should be as simple as possible, and particular materials, for example PET bottles and aluminium cans and deposit and refund rates, should be placed into a schedule so that the regulation can be changed easily without having to re-write the legislation. In this way, the recycling systems can be responsive to changing conditions, such as concerning the value of recyclable materials.

Situation in the OCTs

In New Caledonia: waste management is shared by the Territory's different levels of government. Municipalities are responsible for household waste collection and processing. The Provinces, which have authority over environmental issues, set out provincial waste management strategies, in particular, via their provincial master plans; they organise and create the structures for regulated sectors and monitor Facilities Classified for the Protection of the Environment (ICPE). The New Caledonia Government, via its cross-sectoral responsibilities such as health, is in charge of managing infectious clinical waste and unused pharmaceuticals, with both of these tasks performed by DASS-NC (Health and Social Affairs Department). The Department of Mining and Energy (DIMENC) monitors the import and use of sources of radiation in the Territory and is in charge of managing orphan radioactive waste. On behalf of all three provinces, DIMENC also inspects and monitors ICPE. The French Government, as part of its external relations, is responsible for monitoring transboundary transfers of hazardous waste pursuant to the Basel Convention. This task has been delegated to the French High Commissioner's industrial adviser, the Director of DIMENC.

In French Polynesia: Municipalities are responsible for household and green waste collection and processing and the French Polynesian Government is responsible for regulations and strategic directions in terms of waste management for the Territory as a whole. The DIREN (Environment Department) is currently drafting a French Polynesia law designed to reorganise the waste section of the Environmental Code in order to clarify the municipalities' responsibilities for waste management, develop the main guidelines and the overall legal waste-prevention-and-management framework and increase stakeholders' sense of responsibility for waste management. The *Société Environnement Polynésien* (SEP), or "Fenua Ma" is a semi-public company that French Polynesia authorities created in 1997. Its three main tasks are to study and implement household and industrial waste treatment operations throughout the islands groups of French Polynesia, protect and rehabilitate old illegal or uncontrolled dumps, and protect natural areas. (Source: <http://www.fenuama.pf/index.php/nous-connaitre/nos-missions>).

In Wallis and Futuna: The Territory of Wallis and Futuna has an Environmental Code (2007) that includes a section on waste management. Waste collection is the responsibility of the districts (there are three of them: one on Wallis and two on Futuna). On Futuna, it is provided by the Territorial Office of the Environment (STE) (via an agreement signed in 2008 by the districts on Futuna and the Office), while on Wallis, the Office ensures the collection of special waste (particularly oil and batteries) and sorted waste. The Office of the Environment also manages waste storage and processing. It has produced a waste management plan for Wallis and Futuna and a specific plan to eliminate the Territory's hazardous waste (2011-2016) but they have not yet been approved.

On Pitcairn: Pitcairn does not currently have any waste management safety protocols or legislation. The small size of the community limits the need for cumbersome regulations. An integrated waste management plan is being developed (SPREP mission, as part of the INTEGRE action plan for Pitcairn).

B. Financing Waste Management

Finding the money to finance SWM in Pacific Islands is usually hard. There are three main areas to finance: waste collection, dumpsites / landfills, and recycling efforts. Where the money comes from depends on who is responsible to deal with waste, such as local or national government, or private enterprises. But the areas are tied: better landfills and landfill management can get more waste into the same area (thus reducing the costs and environmental impacts of waste management), whilst improved recycling will reduce the quantity of waste to landfill and save money over time through the avoided cost of extra landfill of recyclable materials. Some perverse incentives can exist, such as where funds are very limited for landfill management and collection, there can be an incentive to restrict waste collection. Poor equipment and poor conditions for waste workers can also act to encourage lower waste collection.

Landfill Finance: Good landfills cost a lot of money in the beginning, but good management decreases costs in the long term. Better compaction rates get more waste into the same space, and also produce a more stable piece of land for future use of some sort. Capital cost for construction will generally come from the central government, and operating costs can come from tipping fees collected at the gate or invoiced to regular users (as at Naboro Landfill and Lautoka in Fiji), or some other method of tying the waste dumped to the cost of doing so. Public budgets can also support landfill as part of the overall public health system.

Collection Costs: these should be tied to the amount of waste collected where possible. This can be done either by using a pre-paid bag, or a bag voucher, system, or another way is to have a charge based on electricity usage, which uses the idea that a household's electricity consumption is a suitable proxy for its waste production. A pre-paid bag system (Pay-As-You-Throw) provides a direct incentive for people to divert recyclables and organics away from their waste stream that goes to landfill. It is very fair, as those who make more waste must buy more bags. Very low income households who might find a bag expensive make very little waste, as landfill waste largely comes from store-bought goods. This bag system is almost universal in New Zealand, widespread in Japan, and used very successfully in Kiribati. It requires care and good publicity during implementation.

Recycling Costs: the Pacific islands have comparatively low volumes of recyclable waste and very high costs for transporting recyclables to overseas remanufacturing plants. As recyclable waste is usually of low value, often only aluminium cans and lead-acid batteries can be recovered commercially, and even then not in remote places. Use of Container Deposit Legislation (CDL), or Advance Recycling Fees (ARF) can make recovery of recyclables commercially viable. This requires some form of deposit or levy at import into the islands, and then that money is built into the cost of the product and paid out when the material is bought in for recycling. For drink cans and bottles this is easy to do, and CDL is in place in Hawaii, Kiribati, parts of the FSM and some states in Australia, as well as Canada, many US states and much of Europe. This approach can also be used for vehicles. ARFs can be used for e-waste, but require a slightly more complex approach, and all these systems usually require special legislation to be passed.

Situation in the OCTs

In New Caledonia, the municipalities charge trash collection fees to each household in order to fulfil their waste collection and processing mandates. Some municipalities have joined forces in inter-municipality units, which allows them to pool resources for the final disposal of household and related waste. The Southern Province was the first to adopt Extended Producer Responsibility (ERP) regulations in 2008. Collection and processing are organised in partnership with TRECOCODEC, an environmental agency, which gets funding from companies that dispose of items in six categories: spent lead batteries, used tyres, spent batteries and accumulators, used oil, scrap/end-of-life vehicles (ELV), and waste electrical and electronic equipment (WEEE). The pollution-control support fund also assisted in the creation of those sectors. That fund, known as the “TAP”, is financed by an import tax on certain categories of products, e.g. new batteries and oil, new tyres, cars, collected by the New Caledonia Government. This allowed the long-standing stocks of waste to be collected and treated so as to launch these sectors on a sound basis.

In Wallis and Futuna, management of the two official landfills, i.e. Vailepo on Wallis and Peka-Moasa on Futuna, has been assigned to the Office of the Environment. The districts are in charge of collecting household waste. The Territorial Government funds the landfills’ operations and a large part of the investments, particularly human resource costs. The Government cofunds collection via subsidies to the districts (about XPF 10 M/year), which come in part from environmental protection tax (10% on imported batteries of all types including vehicle, pesticides and heavy oils) and in part from the goods entry tax. However, difficulties in functioning in the districts on Futuna mean that the Territorial Office of the Environment takes care of collection.

In French Polynesia, since 2012, the municipalities have had to formulate supplementary budgets for waste management. The costs for managing waste were estimated in 2012 to average about XPF 28,700 per tonne, and XPF 12,500 per capita. Collection takes up the major part of this budget (60 to 70 % of the service), with the rest for processing. It should be recalled that currently the French Polynesia Government covers 50% of these amounts *via* the SEP (Fenua Ma); so the municipalities only have to pay 50% of the costs. ERP sectors are currently under study.

On Pitcairn, waste collection and management are funded from the Pitcairn Island Council’s budget, with the support of the United Kingdom.

C. Hazardous Waste

There are three main types of hazardous waste: industrial, medical, and household. In the Pacific islands, industrial solid waste comes from a very few urban areas with industry, for example Suva and Noumea, or else from mining operations, almost exclusively found in Melanesia. As industry and mining are specific to certain locations in the Pacific islands, these instances provide a special case and will not be dealt with here.

Medical waste comes from health clinics, doctors' surgeries and hospitals. Health clinics and doctors' surgeries may be placing their waste into the general street waste collection. This requires that the waste put out for collection is properly contained and that collection workers are aware that waste from these locations should be handled with

extra care as there is an additional potential health risk. This can be done primarily through the use of both correct boxes for disposing of needles and other sharps and red garbage bags so that workers can immediately see the hazard. Also, sorting non-hazardous waste from clinics - such as office papers and wrappers - is important so as to keep hazardous waste to a minimum. Ideally, the red bags are collected separately and either incinerated or placed into a hazardous section of the landfill. A similar approach will cover hospitals, but hospitals usually have their own incinerator for infectious waste from dressings or body parts.

For households, there are two types of hazardous waste: those that are a potential hazard in and of themselves such as waste engine oils and old lead-acid batteries, and those that when disposed of improperly may create a hazard. These items include compact fluorescent lamps and scanners and photocopiers, which usually contain mercury lamps inside. How to deal with such waste is depends a great deal on location: where volumes are very low, it may be feasible to have a hazardous waste area in the landfill, and where volumes are greater, then collection and export for processing overseas may be feasible.

E-waste is something that is technically a hazardous waste, but most items classed as e-waste are not hazardous to handle in normal conditions. The problem comes through improper disposal where chemicals inside the equipment eventually leach out into the environment. Much e-waste has a scrap value, but with high costs in the Pacific, to gain value the equipment must be dismantled and sorted by main component category (e.g. circuit boards, hard drives, power supplies, cables). This process dramatically reduces volume for shipping and significantly increases value of the shipment. This approach is being experimented with in Kiribati as part of developing a long-term plan for dealing with e-waste.

The regional PacWaste (“Pacific Hazardous Waste”) project, implemented by SPREP, aims at improving regional hazardous-waste management across the Pacific in the priority areas of healthcare waste, e-waste, asbestos, and integrated atoll-waste management. It helps Pacific ACP countries adopt cost-effective and self-sustaining priority solid-waste management systems.

In terms of regulations, the regional instruments on waste management are:

- the Waigani Convention, signed in 1995, enacted in 2001 by members of the Pacific Forum. The treaty governs the movement of hazardous waste produced by member countries and prohibits the import into the territory of member countries of waste produced by other countries (hazardous waste and radioactive waste). This regional treaty has been signed by 11 countries in the South Pacific, but not by the French OCTs;
- the Basel Convention (1989, enacted in 1992) on controlling transboundary movement of hazardous waste and its disposal as well as on limiting the export of hazardous waste to developing countries. Some 183 countries, including France, have signed this international treaty but not most of the countries in the South Pacific;
- OECD Council Decision C (2001) 107/Final dated 21 May 2002 on controlling transboundary movement of waste destined for recycling. The 34 member countries of the Organisation for Economic Cooperation and Development have signed this decision;
- When waste must be exported to European Union countries, EC Regulation no. 1013/2006 of the European Parliament and of the Council dated 14 June 2006 concerning waste transport must be followed as this regulation is designed to control the movement of hazardous waste with the EU;

- OCT Association Decision (2013) which sets out the relations between the EU and the OCTs and prohibits the import of hazardous waste into the OCTs. Some 26 countries have signed this decision, which applies to the OCTs.

Situation in the OCTs

In New Caledonia, as environmental regulations have become stricter, a large number of “waste” companies have specialised in hazardous waste collection, transit and export, as there is no local solution for dealing with such waste. So New Zealand, Korea and Australia - the main countries that import hazardous waste - recycle and dispose of the products produced by NC (which, in 2015, amounted to 4000 tonnes of waste – *DIMENC data*). DIMENC issues export permits and monitors the movement of hazardous waste as it is the competent authority designated in New Caledonia on behalf of the French Government. Currently, despite the possibility of consolidating waste in the Pacific, New Caledonia prohibits the import of hazardous waste into its territory based on OCT Association Decision no. 2013/755/EU dated 25 November 2013 – Article 47. So waste from the OCTs is currently exported to New Zealand, Asia and even Europe ;

In Wallis and Futuna, hazardous waste such as used batteries and oil has never been removed from the Territory and so there are long-standing stocks to be disposed of (150 tonnes of spent batteries and more than 100,000 L of used oil). The plan is to export these stocks to authorized processing centres with the EU’s support as part of INTEGRE. As for hospital waste, it is burnt in an incinerator at 900°C two to three times a week ;

In French Polynesia: on Tahiti, hazardous waste such as oil or batteries is collected at voluntary collection points. It is then exported for recycling. Medical care waste is incinerated at the processing and storage unit at Nivee.

On Pitcairn, there are no specific management procedures for hazardous waste: it is thrown in the dump and burned along with all the other waste.

D. Community Involvement in Waste Management

Even the best waste management system will not work unless the public it is serving is fully engaged with that system. Interaction with the public is more important than the technical aspects of a particular system. The community must value the waste collection service as an essential part of modern life just like roads, schools and hospitals. Once they value the service, people will be happy to pay to ensure that they have good service.

A local community must be engaged by those who provide the waste service: that means a process of encouragement and interaction by any project / service provider. This is more than simple “public awareness” which works on the idea that if people are told something is good or bad then they will change their behaviour automatically as a result: this is not necessarily the case. The public will change their behaviour because they want to change, not necessarily because they are told to change. In smaller communities, behaviour towards waste today may be centuries old and so, change takes time. Any community engagement and behaviour change approach must plan to take several years for long-term success.

One of the first steps is to determine how people in the target community get and exchange information, and where new ideas come from. Some communities are quite open to written materials, some not so. In some places street theatre can work well, others not. Music and song can be a very effective way to get messages out to the

public, but how to deliver this is important: radio and TV can be very effective if widespread but can be expensive in some places.

Work in schools is important, but children need to see that their elders are acting in a way consistent with what is taught, and so relying too much on school visits and not enough on the adults can be ineffective. The question of “who is in charge of waste management in the home?” is an essential one to ask. Mostly, this is women's responsibility, and women in the home should be a key target of efforts to reach out to the community. Women's groups often provide this, and many places small groups of women meet regularly. These groups are very useful for gaining personal contact and direct feedback about how a system may be designed and how well it is working once it is in operation. If a waste collection system is awkward for the householder, it is likely to be ineffective when the default is to carry on as before (e.g. burning in the back yard or dumping on the beach).

A single over-arching slogan that is used for all waste communications is an essential device. This should be used in every communication, along with the particular message being promoted. In the long term, this single slogan provides a whole raft of ideas about good SWM under a single motif and is essential for providing consistency to the public engagement campaign over many years.

Situation in the OCTs

In **New Caledonia**, the three provinces have implemented actions designed to get citizens more involved in more virtuous waste-prevention-and-management practices. A pilot composting operation was set up in a Melanesian tribal area and the city of Noumea has sponsored a local waste prevention programme since 2013 – with actions that get people involved such as the “model homes” operation. ADEME also provides awareness activities and puts out information documents for the general public on a regular basis. Several stakeholders in the Territory work together each year during the European Week for Waste Reduction in order to raise public awareness of the issues.

In **Wallis and Futuna**: The Office of the Environment regular conducts information campaigns for the community and INTEGRE has helped strengthen several such actions. So, efforts to raise awareness are underway, particularly with schoolchildren, in the elementary schools and the junior and senior high schools. A large number of presentations and visits to the official landfill have made students more aware of waste management (sorting and recycling), the need to protect water resources and the environment in general. In partnership with the schools, educational projects have been designed with the students so that they themselves can pass the message along in the island's other schools and health clinics. Finally, in 2015, a large-scale project made it possible mobilise the many stakeholders in the Territory through four workshops held at the landfill (landfill activities, sorting – recycling, composting, time needed for waste to break down) and to raise awareness with more than 150 schoolchildren under the Catholic Education Office (elementary school). All of these activities are a continuation of the Office of the Environment's previous efforts, including those targeting the communities by setting up pilot sorting units. As part of INTEGRE, a film was made about waste management on Wallis, along with graphic items (banner, drawings, posters) to raise awareness about waste-related issues in the educational community - students but also the general public.

In **French Polynesia**, as part of its work, the semi-public company “Fenua Ma” began selective collection and has carried out a wide array of campaigns to inform municipal authorities, private citizens and children about waste sorting. The households (33,000) on Tahiti, Moorea and Bora-Bora are equipped with green bins

to collect recyclable waste. For every kilo that private citizens put in the green bin, 1F is paid to associations selected by each mayor's office, with priority for those that work with disadvantaged children. Since 2007, XPF 26 M has been distributed as part of this programme. Every year since 2004, "Fenua Ma" has held a "golden turtles" trophy ceremony to reward the best waste-sorting performances and initiatives. Depending on the year, there are several different categories, e.g. Municipalities, Companies, Hotels, Schoolchildren or Municipalities on the Outer Islands. For Municipalities, for example, it involves rewarding the highest recyclable collection rate for residents. This indicator reflects both the human and material resources deployed by the municipality to collect recyclable waste from inhabitants and the waste sorting efforts made by each person. For several years now, it has been the municipality of Arue that has won this contest. In regards to educating the youngest segment of the community, "Fenua Ma" has come up with the puppets Tao and Tiaporo, who have been traveling around for more than a decade visiting schools on Tahiti, Moorea and Bora Bora. Every year some 35,000 children applaud their performances during this traveling show. This humorous activity is an interactive show that educates its young audiences about problems related to the environment and pollution and about the need to sort waste. For junior and senior high students, "Fenua Ma" offers support in carrying out the educational projects approved by school officials, such as setting up a waste sorting unit at the school.

On **Pitcairn**: In general, most households have individual composting units or something similar, and chicken coops, which limit the production of organic waste. As part of INTEGRE, SPREP is currently visiting the island to develop a waste management policy. The community's very small size (45 inhabitants) provides an opportunity to get the community involved in such matters: they have proposed possible supplementary activities such as building a community oven to make objects from recycled glass. That would not only allow old glass to be reused but it would also diversify the souvenirs sold to passing tourists and directly involve the community in recycling the Territory's waste.

E. Landfill

The term 'Landfill' can cover a broad range of situations where waste is dumped onto land. A better classification provides three main categories: uncontrolled dumpsite, controlled dumpsite, and sanitary landfill.

Uncontrolled dumpsites are of two types: those which are 'officially' sanctioned, for example where the local government dumps waste, and those where the public simply dumps waste. Often, the first has grown from the second. They are usually on bits of land or shoreline where no one is definitely in control, and often are in mangroves or gullies. Steep banks at convenient points on roads can be used too, for example in Futuna. These usually become small local environmental disasters.

A controlled dumpsite is one that lacks the refinements of a landfill but has a fence, a gate, specific open hours and is manned, and people dumping waste are directed as to where to tip their waste. Controlled dumpsites usually have very little - or no - leachate control or drainage. Controlled dumpsites are usually into old quarries or other places that have actually been chosen by the local government.

A sanitary landfill is where the landfill is actively designed from the start, with leachate management systems, controlled drainage to avoid water running off-site and polluting water ways, and usually a weighbridge to measure waste coming in. They use heavy machines to compact the waste.

In the Pacific islands, the greatest challenge is often found at the regional level, with provincial centres becoming quite large, whilst the local dumpsite is unable to handle the waste, and there has been no long-term planning for landfill. On atolls with sizable populations, there is a viable solution of building a landfill into tidal lagoon-side sandflat if the geography permits, and using the properties of coral sand (which is largely calcium carbonate and when contained within a permeable concrete wall) as a leachate treatment medium. Another option exists whereby the Fukuoka Method of semi aerobic landfill is used with a system of pipes to get air into the landfill waste, and treating the leachate in part by spraying it back over the landfill. This system has been successfully installed on upgrades to existing dumpsites in Fiji, FSM, Samoa and Palau.

However the landfill is operated, the key parameter is the compaction rate, i.e. the density: how much waste is packed into each cubic meter. Better compaction requires heavy machines, but management of the landfill is essential to improving compaction. Diversion of green waste and bulky items such as old cars and whitegoods is an essential part of landfill management to improve compaction and decrease pollution from leachates. Many dumpsites are burnt regularly but this practice should be avoided at all costs, as whilst it decreases volume, it creates some very toxic chemicals, and allows the ash to travel far and wide on wind and water.

Situation in the OCTs

Developing waste storage infrastructures is a problem that is shared by all the territories:

Currently in **New Caledonia**, there is one non-hazardous waste storage facility in the Southern Province, three in the Northern Province and one on each of the Loyalty Islands. Several other facilities are planned.

In Wallis and Futuna: The Vailepo landfill on Wallis (authorized to accept household and related waste) has been operating since 2002. The landfill cell now in use will soon be saturated (waste is not compacted before burial). On the island of Futuna, Peka-Moasa landfill is equipped with a landfill cell for household waste, a drying bed for sanitary sewage sludge, a waste sorting platform and a storage zone for bulky waste as well as an incinerator for hospital waste. However some illegal dumps still exist and are major pollution hazards. INTEGRE will also assist with work to close and rehabilitate the dump site in Nanu'u, which has been used as a landfill for the past 20 years.

In French Polynesia: Paihoro landfill has been open since 2000 (with watertight cells and biogas recovery). Other official landfills are planned but their development is hampered by land-ownership issues, the cost of such facilities and the lack of available technical skills.

On Pitcairn: All household and green waste (in limited quantity due to how the households are organised– see previous section) is thrown into a dump. The waste is burned there once a week. Hazardous waste is left at the mercy of the elements, which could lead to leakage into the ground or to explosions. Discussions are underway on reusing certain products (glass, tyres), so as to limit the quantities of waste that is buried.

4. Workshop Programme

This is a draft programme and so is subject to change.

Plenary sessions will be held at the *Faré de la République*, unless otherwise noted, and working groups in the *Faré de la République* and two small rooms nearby. Bus transport will be provided to/from the hotel (departing 15 minutes before the first session each morning). *Simultaneous interpretation will be provided for those sessions held in the Faré de la République (plenary sessions, working group that meets in that room) as well as for the field trip (visit to the landfill on Monday afternoon).*

Monday, 18 April 2016	
8 a.m.	Departure from Noumea (stopover in Fiji) and from Fiji
1:20 p.m.	Arrival in Wallis and participant check-in
1:30-3:30 p.m.	Trip to the hotel (bus) and check-in
3:30-5:30 p.m.	1 – Visit to Vailepo landfill <i>Facilitator: Atoloto Malau, WF Office of the Environment</i>
6:30 p.m.	Opening reception & dinner for participants – <i>Moana Hou Hotel.</i>
Tuesday, 19 April 2016	
8 -9 a.m.	2 – Protocol visit by participants to the traditional leaders of Wallis and opening speech
9:30-10 a.m.	<i>Opening speech:</i> Delphine Leguerrier Sauboua Suraud, INTEGRE Project Coordinator, Pacific Community Mikaele Kulimoetoke, President of the Territorial Assembly of the islands of Wallis and Futuna Traditional leaders of Wallis and Futuna Marcel Renouf, Prefect, Chief French Administrator for Wallis and Futuna
10 -10:30 a.m.	<i>Tea break</i>
<i>Main facilitator for the day: Alice Leney, Pacific Reef Savers</i>	
10:30-11:15 a.m.	3- Introduction on workshop objectives and logistics <ul style="list-style-type: none"> • Alice Leney, Pacific Reef Savers, Hortense Montoux, Deloitte Développement Durable • David Haynes, Going Troppo Consulting – The issue of waste management: definitions, overall background – case of the Pacific.
11:15 a.m.-12 noon	4 - Regulatory Aspects (1/3) – Round table discussion Talks by specialists: what are the main regulatory issues for the territories? <ul style="list-style-type: none"> • <i>To be precised</i> – Legislative framework and governance in New Caledonia ; • Alexandre Le Gayic, French Polynesia Environment Department (DIREN)– Legislative framework and governance in French Polynesia; • Atoloto Malau, Wallis and Futuna Office of the Environment (STE) – Legislative framework and governance in Wallis and Futuna ; • Alice Leney, Pacific Reef Savers – Legislative framework and governance in Pitcairn. Question/answer session, discussions
12 -1:30 p.m.	<i>Lunch – “Bord de Mer” restaurant</i>
1:30 – 3 p.m.	5 – Regulatory aspects (2/3) – Round table discussions (con’t): <ul style="list-style-type: none"> • Candina Neaoutiyne, Northern Province of New Caledonia – Provincial structures in New Caledonia Discussions : <ul style="list-style-type: none"> ○ On regulatory aspects with the specialists for this topic ○ Sharing experiences : feedback from other participants
1:30-2 p.m.	
2 - 3 p.m.	
3- 3:30 p.m.	<i>Tea break</i>
3:30-4:50 p.m.	6 - Regulatory aspects (3/3) – Working groups
3:30-4:20 p.m.	- “Problems-solutions” workshop, based on the barriers identified during the

4:20-4:50 p.m.	preceding sessions - Working group summary reports
4:50- 5 p.m.	Brief overview of the day's work – <i>by Alexandra Riviere, DIMENC NC</i> <i>Dinner – “L’Albatros” restaurant</i>
Wednesday, 20 April 2016	
<i>Main facilitator for the day : Hortense MONTOUX, Deloitte Développement Durable</i>	
8-10 a.m.	7 - Financing waste management systems (1/2) – Presentations and questions/answer session <ul style="list-style-type: none"> • Bernard Creugnet, Trecodec (<i>to be confirmed</i>) ; Victoire Escalon, Southern Province of New Caledonia – Setting up EPR (Extended Producer Responsibility) sectors in New Caledonia, sustainable funding for waste management • Maria Grazia Fanelli, Kosrae Recycling Company – Finance and recycling suggestions from Kosrae State experience (Federated States of Micronesia) • Erwan Couapault, SIMV Sud (Multipurpose inter-municipality association for the South, New Caledonia) – Optimising waste management services so as to control costs • Alexandre Legayic, DIREN PF – Setting up EPR (Extended Producer Responsibility) sectors in French Polynesia: case of medical waste
<i>10:10–10:30 a.m.</i>	<i>Tea break</i>
10:30 a.m.-12 noon 10:30-11:30 a.m. 11:30 a.m. -12 noon	8 – Financing waste management systems – working groups 3 topic –based groups: - Group A : ERP sectors: - Group B : Container deposits: - Group C : Funding in isolated areas: Working group summary reports and discussions
<i>12 -1:30 p.m.</i>	<i>Lunch – Snack Mahina</i>
1:30- 2:30 p.m.	9 –special midweek session: practical exercise / training in facilitating a series of group discussions / brainstorming
2:30- 3:20 p.m.	10 - Community involvement(1/2) - Presentations <ul style="list-style-type: none"> • Candina Neaoutiye, Northern Province of New Caledonia – Involving Melanesian tribes for waste management in the Northern Province • David Boyer, City of Noumea – Strategy to mobilise the general public in waste management and prevention
<i>3:20 – 3:50 p.m.</i>	<i>Tea break</i>
3:50- 4:40 p.m. 3:50- 4:15 p.m. 4:15- 4:40 p.m.	12- Community involvement(2/2) - Presentations <ul style="list-style-type: none"> • Laure Masse, New Caledonia Chamber of Commerce and Industry – Getting professionals more involved in managing waste better • Philip Schyle, ARUE Mayor, French Polynesia
4:50- 5 p.m.	Brief overview of the day's work – <i>by Alice Leney, Pacific Reef Savers</i>
5:30- 6:30 p.m.	Public meeting : <ul style="list-style-type: none"> • Nolwenn Foray, ADEME Nouvelle-Calédonie – Waste management issues in island settings • Bernard Creugnet, TRECODEC – <i>to be confirmed</i> Question/Answer session <i>Dinner – “Lomipeau” restaurant</i>

Thursday, 21 April 2016	
<i>Main facilitator for the day: Alice Leney, Pacific Reef Savers</i>	
<p>8 -10 a.m.</p> <p>8 - 8:30 a.m.</p> <p>8:30- 9 a.m.</p>	<p>12 – Hazardous waste(1/2) – presentations and discussions</p> <ul style="list-style-type: none"> • David Haynes, Going Troppo Consulting, Technical issues for hazardous waste in the Pacific (1/2) • Dr Franck Griffin, Pacific Regional Environment Programme (SPREP) – Technical issues for hazardous waste in the Pacific (2/2) • Alexandra Riviere, NC/DIMENC – Regulatory issues in hazardous-waste management: problems raised by transboundary movement <p>Open discussion</p>
<p>9 – 9:30 a.m.</p>	<p><i>Tea break</i></p>
<p>9:30 a.m.- 12 noon</p> <p>9:30-11 a.m.</p> <p>11:15 a.m. -12 noon</p>	<p>13 – Hazardous waste (2/2) – working groups</p> <ul style="list-style-type: none"> - 3 topic-based groups – introducing work via a presentation (30 min.) then discussion (1h) • Group A : Jeanie Forno, SOCADIS, Victoire Escalon, Southern Province of New Caledonia –Hazardous waste management in the Southern Province and issues related to specific hazardous waste • Group B : Karine Randriambao, Pae Tai Pae Uta, Brice Meunier, French Polynesia Chamber of Commerce, Industry, Services and Trades – Identifying sustainable arrangements for managing commercial hazardous waste in island settings • Group C Jean-Paul Peillex, Technival – Setting up a hazardous-waste export sector in island settings - Working group summary reports (<i>5 min for summary of the presentation and 10 min for the exchanges</i>) and discussion
<p>12 -1:30 p.m.</p>	<p><i>Lunch – meal cooked by the Wallis secondary school</i></p>
<p>1:30- 3 p.m.</p> <p>1:40- 2:10 p.m.</p> <p>2:10- 2:40 p.m.</p> <p>2:40- 3 p.m.</p>	<p>14 – Landfilling and rehabilitation(1/2) – working groups</p> <ul style="list-style-type: none"> - 3 groups concurrently analysing the various existing solutions: <ul style="list-style-type: none"> • group A : landfills • group B : controlled dumping • group C : rehabilitation - Working group summary reports - Discussion
<p>3 - 3:30 p.m.</p>	<p><i>Break</i></p>
<p>3:30- 5 p.m.</p> <p>3:30- 3:50 p.m.</p> <p>3:50- 4:30 p.m.</p> <p>4:30-4:50 p.m.</p>	<p>16 – Landfilling and rehabilitation(2/2) - presentations</p> <ul style="list-style-type: none"> • Nolwenn Foray, ADEME Nouvelle-Calédonie: Rehabilitating dumping sites: issues and key aspects. • Presentations on the Fukuoka method <ul style="list-style-type: none"> ○ Faafetai Sagapolotele, JICA (Japan International Cooperation Agency) –JPRISM project and the Fukuoka method ○ Shalend Singh, Lautoka City Council, Fiji – Implementing the Fukuoka method at Lautoka (Fiji) • Management on atolls: résultats du projet PACWaste • Amber Carvan, SPREP / PAC-Waste
<p>4:50-5:00 p.m.</p>	<p>Summary of the day's work, analysis of solutions proposed in light of the difficulties identified in the first part) – <i>by David Haynes and Sophie Wanson-Escande, French Polynesia Public Engineering Office – to be confirmed</i></p>
<p><i>Dinner – snack Youyou</i></p>	

Friday, 22 April 2016	
8 – 9 a.m.	16 – Raising awareness (1/3) –work by students in WF and PF <ul style="list-style-type: none"> - Projects in Wallis and Futuna : <ul style="list-style-type: none"> • Christelle Olivier, teacher for SAPAT (Home care and community service) teacher at the Agricultural High School– Designing an educational project with the students in the final year of the SAPAT programme and having them carry out the projects themselves in the schools; • Gérard Grig, Technology teacher at Teesi Junior High – Presentation on the “Weeding out waste” challenge • Helena Lelevai, teacher at the Wallis and Futuna public high school, and students – Making a TV ad on waste management - French Polynesia’s project: film made by the students of xxx
9 -10 a.m.	17 – Raising awareness (2/3) : <i>Exhibit at the Falé du vice-rectorat</i> Presentation on school projects in Wallis and Futuna <i>Tea break</i>
10 -11:30 a.m. 10 -11 a.m. 11 -11:30 a.m.	18 – Raising awareness (3/3) – <i>working groups</i> 3 topic-based groups <ul style="list-style-type: none"> - Group A: Mobilising community workers in order to mobilise the community. - Group B: Taking into account traditional cultures for waste management and reduction: - Group C: Identifying appropriate and relevant communication methods and materials: Working group summary reports
11:30 a.m.- 12:30 p.m.	19 – Participatory closing session: How to improve waste reduction and management in the territories?
12:30-12:45 p.m.	Workshop assessment by the participants
12:45-1 p.m.	Overall report and conclusions
1 p.m.	<i>Lunch – as guests of the Office of the Environment</i>
4 p.m. 7 p.m. 9:10 p.m. 2:50 p.m. 4:20 p.m.	END <i>for participants returning to Noumea: recover luggage and transport to the airport</i> Departure for Noumea Arrival in Noumea <i>for participants returning via Nadi : return on Monday, 25 April 2016</i> Departure for Nadi Arrival in Nadi

In addition to this document, at the end of the workshop you will receive:

- Material from the speakers
- A report on the discussions, including recommendations for decision-makers

Reference and practical documents will also be distributed on a USB flash drive, along with the presentation materials used throughout the week.